

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Smith on 3/6/09.

#### **Examiner's Amendments to the Claims**

Cancel Claims 39-44.

Replace Claim 1 with:

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A method for producing 4-O- $\beta$ -D-galactopyranosyl-D-xylose enzymatically in a ratio of at least 68:32 by weight of 4-O- $\beta$ -D-galactopyranosyl-D-xylose to the combined sum of 2-O- $\beta$ -D-galactopyranosyl-D-xylose and 3-O- $\beta$ -D-galactopyranosyl-D-xylose comprising the following steps:

(i) preparing a first reaction mixture of 2-20% by weight of D-xylose, 0.5 to 5% by weight of a  $\beta$ -D-galactopyranoside substrate, and 75-97.5% by weight of a reaction medium that comprises buffered water at a pH between 5.0 and 9.0; adding 10 to 1,000 units of a  $\beta$ -D-galactosidase enzyme, per gram of  $\beta$ -D-galactopyranoside, to the first reaction mixture; and obtaining a second reaction mixture;

(ii) subjecting the second reaction mixture to a reaction at a temperature comprised between a temperature higher than the freezing point of the second reaction mixture and 45 °C., for 2 to 48 hours, in order to form disaccharides in the second reaction mixture;

(iii) stopping the reaction when the disaccharides have been formed in the desired amount, by means of a treatment selected from the group consisting of:

- a) deactivation of  $\beta$ -D-galactosidase by freezing the second reaction mixture at a temperature between -20 °C. and -170 °C,
- b) deactivation of  $\beta$ -D-galactosidase by heating the second reaction mixture at a temperature between 95 °C and 110 °C and
- c) separation of  $\beta$ -D-galactosidase from the second reaction mixture by ultrafiltration; obtaining a third reaction mixture;

(iv) separating an aglyconic fragment of the  $\beta$ -D-galactopyranoside substrate used in the first step from the third reaction mixture by extraction or filtration; obtaining a fourth reaction mixture;

(v) isolating fractions that contain 4-O- $\beta$ -D-galactopyranosyl-D-xylose by a method selected from the group consisting of addition of celite to the fourth reaction mixture, followed by solid liquid extraction with a solvent and elution with a first eluent in a column wherein the first eluent is a mixture of water/isopropanol that contains 1 to 10% (v/v) of isopropanol; and directly adding active carbon to the fourth reaction mixture followed by filtration and elution with a second eluent;

(vi) crystallizing the fractions that contain 4-O- $\beta$ -D-galactopyranosyl-D-xylose in a crystallization mixture selected from the group consisting of mixtures of acetone/methanol in a ratio between 5/1 to 20/1 and mixtures of acetone/water in a ratio between 5/1 to 20/1.

--; and

In claim 16, line 3, delete "4-O- $\beta$ -D-galactopyrano-syl-D-xylose" and insert -- 4-O- $\beta$ -D-galactopyranosyl-D-xylose -- in its place.

#### **Examiner's Amendments to the Specification**

Also the Examiner amends obvious typographical errors in the Specification as follows:

In paragraph [0049]

Replace "Table I" with "Table 1".

This amendment is to ensure consistency when naming the Tables since Table 2 is listed in Arabic numerals and not Roman numerals.

In the last line of Table 1 replace the ratio "83.17" with "83:17".

In paragraph [0053]

In the second line of Table 2 replace the ratio "68.32" with "68:32".

#### **Notice of Rejoinder of All Previously Withdrawn Claims**

Claim 1 is allowable. Claims 33, 35, and 38 were previously withdrawn from consideration as a result of a restriction requirement, currently these withdrawn claims now include all the limitations of an allowable claim. Pursuant to the procedures set forth in MPEP § 821.04(a), **the election of species requirement that the Applicant must elect a series of disclosed species in the inventions of Group I, as set forth in the Office action mailed on 7/3/06 , is hereby withdrawn** and claims 33, 35 and 38 are hereby rejoined and fully examined for patentability under 37 CFR 1.104. In view of the withdrawal of the restriction requirement, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THANE UNDERDAHL whose telephone number is (571)272-9042. The examiner can normally be reached on 8:00 to 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on (571) 272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford/  
Primary Examiner, Art Unit 1651